LIBRARY INSTRUCTION IN TERTIARY INSTITUTIONS

WITH A FOCUS ON THE NEEDS OF

TRAINEE TEACHERS

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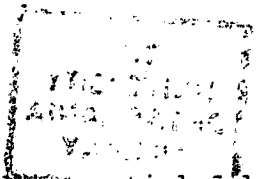

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ABSTRACT

The main aim of this dissertation is to establish the need for undergraduate students and in particular teachers to appreciate the importance of determining what is known on a certain topic and being able to retrieve relevant information in a format suitable to their needs. In other words, the need for library appreciation programmes or reader education, at tertiary level, is argued. A literature survey for this topic based on the United Kingdom, the United States of America and Australia, reveals past and current practice and future trends. The importance of tailoring a curriculum model for reader education to meet the intended audience's needs is stressed. Successful as well as unsuccessful curricula are discussed and a process/objectives curriculum model is suggested for use in the Australian tertiary setting. The practical implications of introducing such a programme are examined, addressing vital issues such as the need for programmes to fit comfortably within the resource capacities of the administering body (money, materials and personnel), practical problems of how such a programme would be implemented, who would design and teach it, when to teach it, how to teach it and how such a programme should be evaluated.

In conclusion, the envisaged use of the knowledge and skills obtained from reader education courses is discussed. The main benefit to trainee teachers is seen to be their ability to make more effective and proficient use of resources, not only within their tertiary institutions, but also within the school in which they will teach, including each schools' educational resource centre and its personnel.

CONTENTS

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I would like to take this opportunity to express my appreciation for the support, guidance and encouragement provided by my supervisor, Mr. Bevis Yaxley, and by Mrs. Jan Redwood who, in her usual efficient manner, not only mastered a word processor to produce the finished work but also ensured that I met my self-imposed production schedules!

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INTRODUCTION

The need for teachers to be given library appreciation courses, or reader-education programmes is based on two observations:

(a) That teachers are ill-prepared for their role as curriculum developers which requires both theoretical knowledge of curriculum design as well as an ability to know what is available on a certain topic and to be able to retrieve relevant information in a suitable format; and

(b) That teachers underutilise their school libraries and the qualified personnel who run them, namely teacher-librarians.

The reason for the failure of school libraries to make any startling inroads into our Australian education process is complex, but one factor commonly voiced is that because teachers themselves don't know how to use libraries effectively their expectations of a teacher-librarian are low and their exploitation of this person's specialised talents in curriculum support and design is minimal. Furthermore, even though students are often given library instruction,

unless this is reinforced via the teacher in his/her teaching style and methods of assessment etc., the value of knowing how to use a library as a means of 'learning how to learn' fails to be reinforced. This is not to say that the teacher-librarian is blameless. There are numerous reasons for failure which can be attributed to the teacher-librarian, but certainly teachers' inadequacies as library users are among the contributing factors.

The basic tenet of this dissertation is that in order to cope effectively with the changing role of the teacher and of the learning process, teachers need a certain confidence and dexterity in information gathering and processing and this usually involves contact with libraries. There is a need to prepare teachers to be flexible so that they may adapt more readily to rapid change. This involves knowing how best to exploit relevant resources whether they be local, national or international and a good way to start is to become an informed library user. Teachers should understand what resources and services a library and a teacher-librarian can provide and should build an expertise in information retrieval and dissemination in order to exploit libraries to their fullest extent.

There is an urgent need to revise teacher-education curricula to include library appreciation and information retrieval skills units. Although library user instruction courses for student teachers will be the focal point of this dissertation, there is also no doubt of a further need for continuing education or in-service programmes in this area for teachers in the field.

As previously stated, reader education programmes are essential if all under-graduates are to be given an opportunity to become independent information retrievers. Although the focus here is on student teachers, the literature survey revealed discussion of reader education courses in general - not of programmes for specific tertiary library user groups such as trainee teachers. The reason for this is that even though the audiences vary, the principles to be imparted remain the same. Regardless of whether the student is training to become a lawyer, an engineer or a teacher, he/she needs the same basic skills and concepts. Admittedly these will be applied to different subject-related information sources, but the information retrieval process and methods used will be essentially the same. Thus the reader education curricula discussed here are not specifically designed for trainee teachers and the curriculum model proposed in Chapter IV could be successfully adapted for use with any tertiary student group.

Aims

The aims of this dissertation are to:

1) establish the need for library appreciation courses for both students and practising teachers;

2) to examine the literature of library instruction/reader education programmes in tertiary institutions;

3) to identify commonly employed curriculum models for reader education programmes;

4) to discuss the practical implications of designing and implementing these curricula;

5) to suggest a curriculum model for use in Australian reader education programmes which could be used for under-graduate students, including student teachers;

6) to describe how the knowledge gained from these programmes might be employed by teachers.

Definition of Terms

1. Orientation

This is concerned with introducing the user to the general techniques of library usage and services available in libraries and, in particular, to the organisation, services and layout of one particular library. In the U.K. this general introduction to libraries is felt to be essential because the use of libraries is seldom taught in schools (few schools in Britain have school libraries as we know them and even fewer trained teacher-librarians to staff them). Although orientation is designed to make the user competent in a particular library there are also general skills imparted which can be used in any library - understanding the nature of bibliographic entries, the way in which catalogues are constructed and used, and the relationship between catalogues and books on the shelves. Such instruction, by its nature, might be appropriate to any potential library user without regard to the subject of his interest.

2. Bibliographic Instruction

The instruction in the use of the literature is, ipso facto, closely related to a particular subject discipline though some aspects (e.g. methods of citation) have general relevance. The objectives in this aspect of user education are to teach the student how the literature in his/her subject is structured and how best to make use of it. This involves acquainting him/her with the principal sources of information (journals, handbooks, significant monographs, conference proceedings etc.) and the keys to the literature such as bibliographies, abstracts and indexes. The student is then taught how to use these keys for a literature search, or to find a specific item of information. Additional skills which might be taught in bibliographic instruction are how to cite correctly, how to compile bibliographies and how to construct personal information retrieval systems.

3. Reader Education

A combination of orientation and bibliographic instruction. Reader education programmes always contain these two components but their relative emphasis within a particular programme may vary.

CHAPTER 1

HISTORICAL DEVELOPMENT OF READER EDUCATION PROGRAMMES

1. United States

An interest in the problem of instructing college students in the use of the library was shown in Harvard in the 1820s. Perhaps the first formal instruction in any college or university was given by Raymond C. Davis, librarian of the University of Michigan. For three years he gave lectures on bibliography to any students who chose to attend. In June 1882, the Board of Regents established a regular elective course in the subject. [1] According to records of the University of Maryland, courses in 'library method' had been conducted since Autumn 1919. [2] In 1926 the American Library Association conducted a survey [3] and thus revealed that about half of the colleges and universities with large libraries were giving some sort of instruction in library use.

In the 1930s, programmes of library instruction proliferated and by the end of the 1940s a large number of colleges and universities were offering some form of instruction in library use or bibliography. The growing emphasis at this time on independent study, library based curricula and the integration of library and academic staff at tertiary level, was a powerful

contributing factor to the growth of such programmes as it caused academics to question the responsibilities of the library to its student users. [4]

The 1950s was a period of consolidation in North America but the 1960s saw much uncertainty resulting in a questioning of accepted procedures and some fundamental changes in direction. During the fifties orientation programmes and instruction courses became accepted and established features in a large number of universities and colleges. In 1956 Willard Mishoff made a survey of college and university handbooks and calendars and found that 30% of institutions - 563 out of 1900 - listed some kind of formal instruction programme; many of these were required courses. [5] Many existing programmes would, of course, have been outside the scope of this survey because they were not given official recognition in the catalogs of their institutions. Required courses in library use and bibliography, some of them of considerable length and complexity, were part of the curriculum in many liberal arts and teachers colleges and some universities. According to Wilson and Tauber,

> 'Formal courses in the use of the library for which credit is given are offered in a growing number of institutions. Such courses are usually offered in three forms: (1) complete courses for freshmen which may be required; (2) elective courses for freshmen or more advanced students; and (3) abridged courses that are offered as a minor part of a course in some subject field.'[6]

The last option was found to be the most popular in the 397 colleges and universities surveyed by E.J. Josey in 1961 [7] 56% of respondents indicated that some instruction, either a single lecture or series of lectures, was given in conjunction with freshman English classes. A further 23% gave instruction to subject groups other than English. 64% offered some kind of orientation week programme but most of these were simply guided tours and there was considerable disenchantment with the value of orientation lectures and tours.

The enormous growth of many universities in the late fifties and sixties caused many once-viable programmes to founder. Forty-six percent of the 157 colleges polled in a 1965 survey indicated that their instruction programmes were failing to meet the need, due to 'lack of staff, lack of time, lack of money for experimentation, and lack of cooperation and interest from the faculty and administration'. [8]

Two subsequent surveys conducted by Verna Melum in 1969 and 1971 [9, 10] together covered 102 libraries in institutions varying from small junior colleges to large universities. The main conclusions from both surveys were that orientation programmes and lectures to freshmen are largely in vain, instruction being effective only at the time of need. Melum asserts that learning to use the library is a continuing process, and that more attention should be given to programmes for graduate students. However, on a more positive note, Melum pointed to

the growing trend to involve students in planning programmes, and she highlighted the faith in educational technology as a means, both of coping with vast numbers and of improving the quality of instruction.

2. United Kingdom

In Britain, 1926 saw the first paper devoted solely to the topic of user instruction. [11] The author, H.E. Potts was not a librarian but an academic, the Chairman of Convocation of the University of Liverpool. Potts was, however, alone in his concern for the need for reader education and the succeeding two decades saw little more than the issuing, by a few university libraries, of printed guides and some instances of librarians giving talks on the library to new students.[12]

The need for library instruction was aired again in Britain at an Aslib Conference in 1942. One of the papers presented by yet another non-librarian, Professor R.S. Hutton, argued the need for instruction in the use of books and libraries as a basis for progressive self-education and the development of initiative and independence in studying. [13] The author noted that few, if any, universities in Britain attempted such instruction in a systematic way.

According to Scrivener, [14] Hutton's paper probably had no immediate practical outcomes. However, six years later it reappeared in the context of an event which directly affected the future development of instructional programmes in British

universities. It was presented as 'additional information' to a working party of the Royal Society Scientific Information Conference in 1948. During the Conference it was noted that scientists had difficulty coping with their literature and the working party recommended that scientists be taught to use libraries as part of their training, both at the under-graduate and post-graduate stage. This recommendation was forwarded to, inter alia, the Consultative Committee of Vice-Chancellors and Principals of Universities, Aslib and the Library Association (L.A.).[15]

The University and Research Section of the L.A. promptly appointed a working party on instruction in the use of libraries which, equally promptly, presented a detailed report in March 1949. This report stated:

> 'It is indisputable that instruction in the use of libraries and information services and in bibliography must form an essential part of the education of scientists....[16]

Furthermore it was pointed out at the end of the report that the recommendation applied not only to science but equally to all other faculties. The report specified three stages in which such instruction should be given. In the first stage new students were to be introduced to the library at the beginning of their first term - in other words, library orientation. In stage two, under-graduates were to be introduced to bibliography, (i.e. bibliographic instruction) both general and subject-based in their first year or at the beginning of their second year. Stage three consisted of advanced instruction in the use of libraries and in bibliographical method and was to be given in the first year of post-graduate study.

The general methods of instruction used by university and college librarians in the U.K. in 1949 were lectures, leaflets or brochures giving an introduction to the library and instruction by means of guided tours. Instruction was generally limited to just first year students. In 1956, Peter Havard-Williams found that the situation had changed very little except that seven of the thirty-five libraries responding to his questionnaire reported instructing students other than in their first year.[17]

Two events in the early 1960s had a far-reaching effect on the development of user instruction programmes in British academic libraries.[18] The first of these was the rapid establishment of seven new universities and the upgrading of ten colleges of advanced technology to the status of universities. These new institutions were experimentally minded from the beginning and enthusiastically set about putting into effect some of the ideas concerning reader-education which hitherto had largely only been talked about.

The second event was the leading role adopted by the National Lending Library (N.L.L.) in graduate teaching in the sciences. After an initial round of seminars on the exploitation of scientific literature given directly to groups of post-graduate students and research workers, the N.L.L. turned its attention more to education of university librarians and academic staff in these techniques so that they in turn could instruct the students of their institutions.[19]

Further exhortations from various committees on tertiary education also would have played a part in stimulating a spate of activity in this field during the second half of the sixties. For example, the report of the Committee on University Teaching Methods (Hale Report) in 1964, stated:

> '....we regard it as essential that library facilities for under-graduates, as well as for research students and staff, should be adequate, and that students should learn to use them'.

The report also suggested that all universities should consider carefully at what stage or stages to give such instruction in the use of libraries.[20]

The report of the Parry Committee, three years later, was much more explicit and based many of its observations on the results of a survey commissioned by the committee. It stated:

> '459. We recommend that preliminary instruction should consist of general guidance on the layout of the library whether by means of conducted tours, booklets, films, or film strip. Regulations and some guidance in library procedures would also be introduced at this stage.
>
> 460. This introduction must, however, be followed by guidance on the literature in the students' subject, with specific instruction in the use of bibliographical tools. The timing of this instruction,

> which should include seminars and lectures on the library needs of students, should be given careful consideration in individual institutions. In our view, the beginning of the first academic year would not be a good time. We appreciate that such instruction would involve considerable additional work for library staff, and financial provision should be made available for the engagement of additional staff to carry out these teaching duties.[21]

A survey of instruction programmes in British university and college libraries was conducted by R.J.P. Carey between 1964 and 1966.[22] Three hundred and twenty institutions responded to his questionnaire, of which seventy-five were universities and forty-five were major colleges of technology. It was found that instruction was given at three distinct levels:

(1) Introduction - a) tours of library premises (time : thirty to sixty minutes) and

b) some instruction in using the catalogue, general bibliographies etc., which in some cases, was followed by a library assignment (time: two to six hours).

(2) Systematic study of information services - sometimes leading to an exercise in finding specific information. Student participation is essential and teaching staff may be involved (time: two to six hours).

(3) Courses in finding and using information - systematic library instruction followed by a literature search and evaluation of information for a specific purpose. Such courses involve close association between librarian and teaching staff and are integrated into the general teaching plan (time: twelve to thirty hours).

Of the one hundred and twenty universities and major colleges surveyed, eighty-two gave instruction at the introductory level and twenty-six (thirteen colleges and thirteen universities) provided systematic courses; however, all of the respondents were of the opinion that introductory courses should be given and twenty-four colleges and twenty-three university librarians believed that there should be longer systematic courses. Teaching staff participated in the programme at fifteen of the colleges but at only three of the universities.

At the present time nearly all universities and polytechnics in the U.K. provide some form of user education. However, though a set of aims and objectives for a user education programme would enable the expected outcomes of the programme to be stated, very few librarians have specified their aims. The expressed or implied aim appears to be in general terms, to enable the student to achieve maximum utilisation of library resources and services.[23] Programmes established to achieve this aim are generally in three distinct, though overlapping stages:

1. Orientation and library usage

Bibliographic

2. Systematic study of information services

Instruction

3. Courses in finding and using information.

3. Australia

The sixties saw a major growth in user education programmes in Australia. An important contributing factor to this upsurge was the rapid expansion of funding to Australian universities. Also, the late sixties saw the establishment of library schools and along with them a 'new breed' of librarian. With the beginning of the Advanced Education concept came renewed vigour and enthusiasm for education in the under-graduate field. All these things were partly responsible for the enthusiasm with which the concept of user education was received - an enthusiasm which culminated in Australia's first national conference on user education held in Hobart in 1972.

The Hobart conference addressed itself to all the perennial problems and basic questions:

- Should reader education be compulsory?

- What research had been carried out to support or reject the success rate of reader education programmes?

- What was the status of the reader education librarian? Should s/he have librarianship and teaching qualification ? If so, should s/he be paid at the same level as other academic lecturing staff?

- Should reader education teach a person to use only one library or should it focus on principles/systems common to all libraries?

- Should courses be confined to how to find information or how to use it once found?

A result of the conference was the publication in 1973 of Standards for Reader Education Programmes. Recommendations included the appointment of one full-time reader education librarian for every 1,000 students enrolled, plus clerical and audio visual backup (whatever that means), plus an allocation of space necessary for the conducting of these programmes. In 1973 the Library Association of Australia commissioned Andrew White from the Western Australian Institute of Technology to survey the colleges of advanced education and the universities in Australia to ascertain -

1) the number of tertiary institutions offering some type of reader education

2) the average length of time given to instruction in each case

3) the methods of evaluation (if any) employed and

4) the locus of responsibility for running such courses.

Where possible the costing of these programmes was also examined. This survey was replicated in 1981 by the staff at the User Education Resources, USER, Clearinghouse at Caulfield Institute of Technology, to monitor the trends in the intervening years. The results of this survey have not been published as yet.

Chapter I - Notes

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[2] Josephine Wedemeyer. 'Student Attitudes towards Library Method Courses at University' College and Research Libraries 15, 1956 pp 285-289

[3] American Library Association. A Survey of Libraries in the United States (Chicago : A.L.A., 1926-27) v.2., pp 192-200

[4] Jeff Scrivener. 'Instruction in Library Use : The Persisting Problem'. Australian Academic & Research Libraries. June 1972, pp 88.

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[6] L.R.Wilson & M.F. Tauber. The University Library. 2nd ed. N.Y.: Columbia University Press, 1956) p.438

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[12] Jeff Scrivener. Ibid.

[13] R.S. Hutton. 'Instruction in Library Use : a needed addition to the University Curriculum.' in Aslib Report of the Proceedings of the 17th Conference...1942 (London : Aslib 1943) pp 27-29.

[14] Jeff Scrivener. Ibid.

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[16] University and Research Section of the Library Association. Report of the Working Party on Library Instruction. (London : L.A., 1949) p.2.

[17] Peter Havard-Williams. 'The student and the university library'. Library Association Record 60, 1958 pp 269-272.

[18] A.G. McKenzie. 'Reader Instruction in Modern Universities' Aslib Proceedings 21, 1969 pp 271-279.

[19] National Lending Library. Annual Report. 1969, 1970 and 1971. London : N.L.L., 1969, 1970 and 1971.

[20] Great Britain University Grants Committee. Committee on University Teaching Methods. Report. (London : H.M.S.O., 1964) pp 94-95.

[21] Great Britain. University Grants Committee. Committee on Libraries. Report (London : H.M.S.O., 1967) pp 117-118.

[22] R.J.P. Carey. 'Library Instruction in Colleges and Universities of Britain'. Library Association Record 70, 1968 pp 66-70.

[23] M.B. Stevenson. Problems and Evaluation of Reader Instruction in British University Libraries. M.A. Thesis (London : University College, 1973.)

CHAPTER II

THAT WAS THEN, THIS IS NOW - THE CURRENT STATE OF THE ART

1. United States of America

The literature reveals that there is a great deal written about the theory of user education in the States and there are many ideas for courses and yet, as Griffin and Clarke note in their 1972 survey,[1] it is a curious paradox that instruction in library use, which so many librarians regard as one of the most important forms of library service, remains so ill-defined and poorly organised. Traditional methods of instruction are still the most important, there being little innovation in teaching methods, though audio-visual aids are given more emphasis in the total user education programme than in the U.K. Also a greater emphasis is placed on user education at an earlier stage in the educational curriculum even as early as kindergarten, and certainly in primary school grades.

Other important differences include the greater use of evaluation in the U.S.A. for the comparison and assessment of teaching methods (though not necessarily for measuring the achievement of individual programmes or courses) and the concentration on freshman orientation as the major component of a user education programme. There has recently been a move towards greater emphasis being given to the needs of more advanced students and graduates, and Dyson's survey [2] confirms a rapid expansion of instructional programmes in the seventies. They are now receiving a higher priority than before and more money for their implementation.

The methods adopted for orientation programmes generally fall into one of five categories - tour, handbook, lecture, separate credit course or individual instruction. The most popular of these appears to be the conducted tour. The self-guided tour either in print form or on audio cassette is gaining popularity. Advantages seen for this type of tour are that the student can proceed at his own convenience and pace, that the method encourages the student to browse, enables him to handle materials of special interest to him, and generally leads to a personal confrontation of the student with books, facilities and people, something which conducted tours tend to prevent. 'Armchair tours' providing a (usually tape/slide or television) guided tour of the library area are increasingly used as a substitute for the conducted tour and not, as in the U.K., as a supplement to it.[3]

This tendency to replace the personal dimension of user education by hardware can be seen in other aspects of user education in the U.S.A., yet the person to person approach is still maintained to be the ideal. C. Millis concludes that orientation which involves students in a total library experience on a one-to-one basis, rather than an assembly line of isolated exposures, cannot be anything but a commitment to help.[4]

Handbooks or printed library guides are very often the only other form of instruction provided in many colleges and universities. The majority are traditional in format, though the use of colour, illustrations and cartoons distinguishes many of them from their transatlantic counterparts.

A cooperative venture in the production of printed teaching aids resulted in the Pathfinder series of publications. Originally part of the Model Library Project of Project Intrex at Massachussets Institute of Technology, these publications have been described as being like maps to the resources in a library. Their function is to get users started on their information search. They are now published commercially. This again is where the U.S.A. and the U.K. differ in their approaches. In the U.S.A. there are now many handbooks or keys to libraries being made available and there is also a trend for universities and colleges to publish details of their user education programmes and make them more widely available.[5]

Separate orientation lectures are seen as the least popular form or orientation both with students and librarians, but they are still very common. In an effort to improve this situation the timing of the lecture has been moved away from the first few days of the students' course to a clinic session immediately before the writing of a term paper when students are more highly motivated and an introduction to information retrieval is well received. The alternative to the separate lecture is the credit course, which also increases students' motivation because it carries marks. These courses are, however, not common and most are run as electives and attract only small numbers. Other disadvantages linked with credit courses are the time necessary to plan and prepare for them adequately and the tendency to include too much information, turning students into 'mini-librarians'. In addition, because of the elective nature of the courses, and the fact that they are not linked to a particular subject, the spread of the students' subject interest makes it almost impossible to teach the use of subject literature in anything other than a general fashion.[6]

The final method adopted for user education programmes is that of an individual instruction, which takes one of two general formats. Point-of-use devices are gaining in popularity as are self-instructional aids generally. They are seen as the only practical way of instructing all students at a time of poor staff-student ratios. Point-of-use devices have the built-in incentive that the student will learn when he/she experiences a real felt need to do so. Formats adopted include tape/slide presentations, a telephone connected to an audio commentary and

videotapes. These devices, however, have one important drawback. They serve in a sense as second level instruction since a user receives instruction in the use of a bibliographic tool only if he/she knows it exists and that it is potentially useful in solving his/her particular problem.

The second individual instruction format is that of programmed instruction and this is achieved by using the book, the teaching machine and computer-aided instruction either alone or in combination. Once again the personal element is removed from instruction but the advantages lie in the student's active participation in the learning process, he/she can work alone and at his/her own pace and immediate feedback is provived. Also, pre-tested, validated subject matter is presented in a logical manner.[7]

Computer-aided instruction is potentially one of the most important of the new aids to user education and may become moreso as the need to train more and more users in on-line computer based information retrieval services becomes apparent. At the present time very little instruction is given to such users in universities and colleges.

The increasing popularity of self-instructional packages is yet another example of the replacement of the personal element in reader education. Self-paced, self-directed courses provide students at U.C.L.A.'s college library with twenty assignments to complete. These require students to use the facilities and resources of the library. A work-book is used to introduce

the course and describe simply the sources used in each assignment, as well as to pose the questions for solution. Each student (up to one hundred) has a different question and answer sheet. A similar approach is used by the reference staff at the University of South Florida, Tampa. The emphasis is on the practical element but here communication between librarians and students is encouraged and the reference service staff is augmented by using students trained in reference work. It is assumed that as students they are more approachable by their fellow students.[8]

Reader education in the U.S.A. caters for the freshman student best. Programmes for sophomore, senior and graduate levels are not so well developed. Subject bibliographic instruction and searching techniques are covered but courses deal with printed information sources rather than with mechanised services or automated information retrieval. Lectures plus audio visual aids are the usual teaching methods. Course related library instruction is often synonomous in the U.S.A. with integration, but this can be at a very superficial level. In the 1977-78 academic year the Council on Library Resources' Library Service Enhancement Programme provided funds for librarians from thirteen college and university libraries to explore with faculty, students and administrators ways of integrating the library more fully in the educational process on campus. Support for true integration, that is library instruction relating directly to the student's course of study, or part of it, is supported by the National Science Foundation which has provided funds for a project to help institutions develop

course-related library instruction programmes.[9] Several of the programmes involve conducting workshops or seminars for faculty or experimenting with audio-visual techniques in library orientation.

Staffing for user education programmes has already been seen as a problem faced by many. The number of staff assigned to user education varies according to the method of organisation of user education within the library. The Association of Research Libraries surveyed user education programmes in sixty-four libraries [10] and found two distinct methods for the administration of library instruction in use. The first was the maintenance of a formalised and centralised administration of library instruction within the library, allocating responsibility for coordination to a specific person and/or committee. The other pattern to emerge was decentralised, and responsibility was assumed by staff on a more or less ad hoc basis. The former pattern of organisation was found to lead to greater and more diverse user education activities. Dyson [11] found that organisation patterns of library instruction programmes reflected the local circumstances and conditions but he, too, noted that where specific posts were created for cooperation and liaison with faculty, a greater measure of success was achieved.

2. United Kingdom

The present state of the art in the U.K. is very similar to that of the U.S.A., though, as already noted, the history of user education and practice is longer in the U.S.A.
Though much effort has gone into developing user education over the last few years in the U.K., there are nevertheless, significant problems still to be faced.

Many librarians hold the view that the main limitation to the progress of user education is the attitude of academic staff and the teaching techniques they adopt. Although they agree in principle that students should learn to use the library and the literature of their subjects, academics do not put much emphasis on this by making it necessary for students to use the library as part of their courses. Students particularly consider that their main objective is to pass their assignments and/or the exams, and if they can do so without learning efficient literature searching techniques they feel that learning such techniques does not have a high priority. [12]

It is not just academic staff who give user education a low priority. Librarians also often rate user education low in the list of library functions. Libraries which show the greatest commitment to user education are, in general, in the polytechnics and the technological universities.[13]

Fortunately the future is likely to be characterised by more research into the problems of user education than has hitherto been the case. This results from the activities of the Review Committee on Education for Information Use, established by the British Library Research and Development Department (B.L.R.D.D.) in 1974, whose brief was (i) to review research and related work in the field of user education, (ii) to identify gaps in past and present research in the field, (iii) to consider steps to be taken to ensure practical action and (iv) to report to B.L.R.D.D. recommending objectives and a programme of further research.

Several of the recommendations of the committee have already been acted upon, notably in creating an effective focus for the coordination, interchange and dissemination of ideas and information on activities relevant to user education. This has been achieved by the appointment of an Information Officer for User Education (based at Loughborough University). In addition, the B.L.R.D.D. will maintain close links with the SCONUL Information Services Group, whose aims include the encouragement of cooperation in the provision of information services and the promotion of dissemination of information on such services. An immediate result of these activities has been the appearance of two new journals, Infuse and ISG News, which are enabling interested parties to share experiences of user education in a way not possible before.

Research work is now in progress, supported by B.L.R.D.D., and

includes work on user education in primary and secondary schools, travelling workshops and demonstrations in the use of library resources using visual media. Work on user education in schools is at an early stage and Liverpool Polytechnic is involved in the establishment of a register of the methods used to instruct pupils in the effective use of information sources. The Royal College of Art is engaged on research into the ways in which information presented on book labels, in visual guides to library catalogues, on plans and directional signs etc. can be presented for maximum legibility and comprehension.[14]

The aims of the travelling workshop established by Newcastle Polytechnic are to show teaching and library staff how various aspects of information handling might be taught and incorporated into the students' curricula. They are also designed to make students aware of the sources of information in their field and how to use them effectively. Based on user advice these workshops have been modified from lectures supported by slides and a handout, to self-access tape/slide programmes based on practical exercises and a self-instructional handbook.[15]

Trends

Trends in user education programmes, like fashions, tend to be circular. For example, in the U.S.A. in the late 60's and early 70's when academic libraries were blossoming under increased funding, the computer was seen to provide a means of giving one to one instruction to vast numbers of students. All over the country librarians and programmers were duplicating effort in developing packages for computer-assisted instruction (CAI) for reader education courses. Then followed a frantic period of debate over the success or failure of CAI for this type of course. Conventional methodology finally won and the seventies saw a return to the personal approach. Yet, in the past five years, drastic budget cuts for tertiary institutions, combined with both an increased technological sophistication and a more willing, more accepting attitude of automation in general (on the part of both students and librarians), has led to a resurgence of interest in CAI.[16]

Other current trends include the burgeoning of cooperative clearinghouses, an emphasis on the need to share resources to coordinate efforts and open channels of communication; and the recognition of the importance of reader education librarians to have teaching skills - hence a plethora of short courses for user education librarians who lack such skills and the appearance of titles such as A Teaching Manual for Tutor Librarians. [17] The other trend which is easily discernible at the moment, and one which should be welcomed, is the concern of user education librarians to motivate their students and the

need to set clear objectives for their courses and then to evaluate them to see whether or not their objectives have been met. In other words the increased awareness of the importance of teaching expertise has brought with it a much needed realisation of the importance of curriculum design.

Apparatus of user-education cooperation : some examples

1. Clearinghouses

These exist now in Australia (USER), U.K. (LIMB and SCONUL) and U.S.A. (LOEX). They collect materials, either solicited or unsolicited, from any institution or group preparing user education materials, and make it available to any interested party. It is hoped that the improved accessibility and availability of user education resources made possible by these clearinghouses will serve to give user education course designers fresh insights and new ideas and help to avoid unnecessary duplication of effort.

2. Workbooks

Workbooks are used to teach large numbers of students with relatively little staff involvement. They require careful structuring otherwise they may be sequenced badly, try to give too much too soon, or not enough, and so on. When successful, however, user education workbooks, such as those constructed by Miriam Dudley at U.C.L.A., can be marvellous resources to share with other user educators. They need some modifications so as to fit each library's

own system, but they do save an enormous amount of time and effort. However, workbooks are best suited to basic skills and few are available in the fields of science and technology.

Other common avenues of cooperation in user education are travelling workshops, where a team of experts instruct in certain areas of basic information retrieval skills, and groups such as SCONUL in Britain, who produce slide/tape user education packages.

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CHAPTER III

MANAGEMENT OF READER EDUCATION PROGRAMMES -

SOME CONSIDERATIONS

The design of reader education curricula cannot be divorced from the perspective of management - a large number of administrative decisions must be made in order to mount programmes of this nature. A number of questions need to be considered and, if possible answered. For example, what will be the resource constraints of the future? What aspects of the task should be given priority? Can any relief from other duties be obtained for those responsible for teaching in the reader education programme? And of course, the three perennial problems which haunt reader education, namely, inadequate finance, lack of timetabled time, and the indifference of academic staff and students, must be addressed by each institution as it ventures into the realm of user instruction.

The rationale used to justify the running of reader education is akin to a cant, a dogma, which has been repeated so often that people believe it to be true. It goes like this:-
librarians in many different types of libraries have observed users are very limited in their knowledge of resources available and are inefficient in their use of resources. They therefore

should be taught to use the library more efficiently. This will reduce their frustration (or increase their user satisfaction) and at the same time it will result in a more economical use of the reference librarian's time as there will be less need to repeatedly answer basic questions. As a result the librarian will have more time to devote to alternative professional duties or problems.

In this rationale there are a number of unresolved issues.

1. The assumption is made that the user ought to know how to use a library efficiently. Few question whether the user wants to acquire such skills and insufficient thought is given to establishing what s/he needs to know.

2. Although library instruction may reduce the number of repetitive queries to be dealt with by reference librarians, a successful programme of instruction has often increased the workload of reference staff since they are seen as a source of knowledge and assistance by a greater proportion of the user population.

3. To date, there has been no conclusive evidence to indicate that library instruction has improved the grades of students in examinations, or to indicate improved performance in continuous assessment.

The validity of user instruction may vary according to the type of library and the individual library's policy regarding the level of reference service to be offered. For example, it is necessary for undergraduates in a university or college to develop skills for independent library research if the policy of their library is to provide only minimal service to undergraduates, and if the academic staff set assignments requiring investigations beyond basic texts. By contrast, it may be pointless for a group of engineers served by an efficient selective dissemination of information system to spend time mastering the intricacies of the relevant indexes. Again, the users of a public lending library who are there primarily for recreational purposes, would see courses on Library of Congress Subject Headings and the use of Science Citation Index as irrelevant.

Although much of the literature either states or implies that user education is an essential part of the duties of the librarian, there is little evaluation of library education to indicate that it achieves its objectives, i.e., that students become more independent in their acquisition of information; that the range of library materials used increases; and that this bears a direct and causal relationship with their success in their studies and so on. Furthermore, it has not even been established that the above objectives ought to be desirable goals. Few user education programmes even state their objectives, let alone the standards or criteria against which to judge success.

Thus library instruction, if it is to be used at all, must be related to user needs and user motivation. Other factors which must be taken into account are:

1. Whether the instruction will be informal or formal and the techniques to be used.

2. Whether a 'one-off' or a developmental approach should be adopted. In other words, will each course given to discrete segments of the student population be unique, or will some common core units be developed which could be incorporated into all courses.

3. Whether library instruction is to be integrated with other courses or presented as separate units.

4. Whether the emphasis should be on the acquisition of skills or concepts or both.

5. Whether instruction should be compulsory or voluntary.

6. Whether librarians or academics should provide the instruction - or should courses be 'team taught'.

7. The most appropriate time/stage at which to give library instruction.

8. Whether to stream participants to ensure a similar level of competence.

Throughout the literature on reader instruction in universities and colleges there is continual emphasis on the importance of academic support of the programme. This is most essential for the establishment of programmes of integrated instruction.

Type of programme to be adopted

In a paper entitled 'User Education in Europe and U.S.A.' [1] Nancy Fjällbrant differentiated between the type of teaching and learning espoused by many reader education curricula. Many confined themselves to promoting the library and its services and orienting students to the library's layout; in other words, orientation programmes. A few were more ambitious and undertook to train students, teaching them how to do things in the library and imparting simple skills. In the minority however, were those curricula which aimed at educating the library users. These programmes tried to explain the WHY as well as the HOW; aimed at enabling students to formulate concepts and to analyse and synthesise information. In other words, a process model curriculum.

2. Factors affecting the learning process

No matter what method of education, training or orientation employed, if students lack motivation then any such programme is doomed to failure. Education has been described as a process which changes the learner. This process can be affected by a wide variety of factors. However as Hills [2] pointed out there are four main factors that affect learning in practical

situations. These are motivation, activity, understanding and feedback and they can be considered in relation to the programme of library education:

(i) Motivation - Instruction should be given at a point of high motivation, as for example, when a student wants to obtain information in connection with a particular project.

(ii) Activity - Active work on a problem - learning by doing - is likely to be more effective than simply being told how to do a particular piece of work.

(iii) Understanding - Library education will be more effective if the student understands what he is doing and why he is doing it - that is, if new facts can be related to existing knowledge.

(iv) Feedback - Feedback, information on the students progress, should be readily available during problem-solving activities.

3. Setting aims and objectives

Before any statement of aims and particularly objectives is developed, the needs of the user must be known, not perceived. The aims of the programme when stated should tie in with those of the library and the institution; the objectives for the courses should relate to the objectives of the individual academic department's courses and ideally they should be an

integral part of those objectives. A statement of aims and objectives is a statement of possible and desirable changes resulting from an educational programme. Those changes must be agreed to by all participants. Unfortunately, aims and objectives are not frequently stated by librarians for user education programmes [3] [4].

When stated, they are usually based on the librarian's concept of need - in other words, on intuition,

> 'Most library instruction is based on what we librarians think library users need to know. It is this educated guesswork or perceived need on which many programmes have been based.' [5]

This may be the reason for the lack of success of some programmes, especially if the students do not sympathise or agree with the content of the programme.

In planning any form of educational activity, it is necessary to consider the main goals and specific objectives carefully. The learning/teaching situation implicit in library education is complicated. Library use is not a separate academic discipline, such as history, psychology or botany, but comprises a series of skills which can be utilised in the study of many academic subjects. Thus instruction in library use must be closely integrated into the teaching programmes within a variety of academic courses. [6] [7]

There is a need for cooperation among library staff, academic staff and students in order to decide on the main goals or aims of library education. In many cases the goals envisaged by the three groups do not coincide. [8] [9] Thus library staff may be primarily concerned with maximum utilisation of the information resources possessed by the library, academics with how to teach students how to collect information and assess it critically, whereas students may want to know how to find information as quickly as possible, in order to pass assignments, examinations or both.

The main goals of a programme of user instruction should integrate these three different aspects. An attempt to express the broad goals for user education has been made in connection with the development of a programme of user education at Chalmers University of Technology Library, Gothenburg, Sweden:

"1. To enable the user to understand the pattern of communication and the channels of information flow, in order to become aware of the different ways in which information can be obtained.

2. To enable the user to become aware of the information resources available to them at their own, and other libraries.

3. To enable the user to learn how to use the various tools available for information searching, in order to be able to obtain information useful to them for their studies while at university and for their later work.

4. To create a positive attitude to information searching which will stimulate the user to make use of the resources available at different libraries." [10]

One reason for the lack of statements of goals and objectives is that librarians are generally not skilled educators. Although they may use objectives in management systems, they have not been exposed to educational objectives. In Britain the SCONUL slide/tape programme has been a catalyst in getting librarians to experiment with formulating objectives [11], and in the U.S.A., the American Association of College and Research Libraries advanced the cause considerably when its Bibliographic Instruction Task Force produced a set of guidelines which included a model statement of objectives for bibliographic instruction for undergraduates. [12] Furthermore, the guidelines emphasise that a statement of objectives is of necessity unique to each institution and it is intended that the model should be reviewed and adapted to suit that purpose. The purpose of the model statement is to stimulate academic librarians into articulating their own objectives and designing programmes to achieve those objectives.

The general aim of bibliographic instruction is stated to be:

> 'A student, by the time he or she completes a programme of undergraduate studies, should be able to make efficient and effective use of the available library resources and personnel in the identification and procurement of material to meet an information need.'

The general aim is then broken down into meaningful units of four terminal objectives or outcomes which are further subdivided into enabling or behavioural objectives (for the most part) which define the specific knowledge or skills which are necessary to achieve the outcomes. The behavioural objectives are specific and measurable. For example, outcome two specifies that the student should know how to use reference tools basic to all subject areas and the behavioural objective following on from this is that a student should, in a specified time period, be able to list five periodical titles (and the indexes which cover them) in an unfamiliar subject field using a directory such as Ulrich's International Periodicals Directory. [14]

All the objectives in the guidelines are cognitive; no account is taken of affective outcomes. Nevertheless, this is a model statement of objectives that can serve as a starting point for more librarians to write their own list of objectives and, as such, should be welcomed.

4. Teaching Methodology

Teaching Methods and Media Currently in Use for Library Education

Teaching methods may be roughly divided into those which are suitable for group instruction, those suitable for individual instruction, and those suitable for both. Choice of teaching methods and media depends on the learning/teaching situation, the subject matter, the students and the teachers. No single method could be suitable for all occasions, and there are many reports of the use of different methods in library user education.

User Orientation Methodology

Two methods predominate here, the guided tour, which is the most popular, and the introductory lecture. Sometimes these two methods are combined. In the first area of the guided tour, there is a growing use of the self-paced tour. This can be accomplished either by using an audio-visual presentation or by using a printed handout.

Using Training Methodology

The most popular methods here are demonstrations, practical exercises and workbooks. The use of the latter is popular because many students can be taught using relatively little staff time. Most work-books concentrate on basic skills.

The methods chosen for library user education should involve an active participation of the student, at a point when he/she feels motivated to use the library - in connection with studies in some specific academic discipline. The students should be provided with information on the progress made during the active problem-oriented activity.

Figures taken from a survey [15] indicate that learners retain about 10% of what they read, 20% of what they hear, 30% of what they see, 50% of what they see and hear, 70% of what they say as they talk and 90% of what they say as they do a thing. On neurophysiological grounds, one would expect there to be considerable differences between individuals with regard to the most effective channels of learning, therefore one must regard such statements with a

certain amount of scepticism. Nevertheless, teaching methods which make use of a combination of sensory inputs are likely to be more effective than those which rely on a single channel of communication skills.

User Education Methodology

Many of the above methods are employed but as already mentioned, the emphasis here is on the WHY as well as the HOW. Students are usually given skills in both manual and automated information retrieval and need to understand the advantages and disadvantages of both. This may be achieved in many ways through programmed instruction, seminars, tutorials, practical exercises etc. Students are usually introduced to theory of the nature of knowledge and patterns of communication in their chosen subject field(s). In both the manual and automated information retrieval areas, the students of science and technology are well catered for. In fact, many of the on-line data bases in these disciplines are increasingly 'user-friendly' or undaunting and simple to use. The U.S.A.'s National Library of Medicine's data base, MEDLINE, is so well structured for searching that it is often chosen as a teaching data base not only for science students but for those studying arts and social sciences as well.

5. The Timing of Different Aspects of User Education

It is of the greatest importance to provide instruction at a point when the student experiences motivation for learning about the material to be taught. A distinction should be made between library orientation and instruction methods of information retrieval. Orientation is, as was explained in

the introduction, concerned with enabling the student to grasp four basic points, namely WHEN the library is open, WHAT is available, WHERE specific items can be found and HOW to actually obtain and borrow the required material. Instruction is concerned with enabling the student to obtain information required by making use of the total resources and material available in the library. It is concerned with problems of information retrieval.

Whereas orientation courses are almost without exception mounted for students in their first term of tertiary study, the timing of instruction courses is far less clear. Instruction in methods of information retrieval is often given in two stages - an introductory course for undergraduates and a more advanced course for postgraduates. It is the decision as to when to introduce undergraduates to instruction that is the most difficult. Of course, ideally, if bibliographic instruction were integrated with academic course work, then the problem wouldn't arise, as it would be sequenced to fit in naturally with topics being studied. However, the majority of institutions do not function in this ideal way and bibliographic instruction is often offered as an extra, an elective, or it is artifically attached to a seminar programme in English Literature. It is here that the timing becomes problematic. The second year of a three year undergraduate programme seems to be favoured but there are those who argue that this is one year too late and still others who believe the student can manage perfectly well without this advanced library instruction

until his or her final year. This is a problem which needs to be resolved by each institution as there is no common ground or agreement on the issue.

6. Librarians as Educators

What are the qualities required of library staff to enable them to function as user educators and be able to create a welcoming atmosphere? In the U.K. a survey by Stevenson [16] found that in the polytechnic libraries, professional and subject qualifications were put before teaching experience and personal qualities in an order of merit, whereas university librarians considered personal qualities at least as, if not more important, than qualifications. Qualities mentioned included enthusiasm, an ability to communicate clearly and effectively, friendliness and helpfulness, patience and humility. There is, however, a problem in that most librarians are not skilled in educational technique. It is essential therefore that librarians involved in user education curriculum design be themselves educated for the job. Such education is not given at library schools (it is considered that there is little enough time to cover the essentials of librarianship in the time available), though there is a growing awareness of the need for this area to be covered in post initial courses. In fact in Australia a continuing education programme on reader education issues and curriculum design was held in November 1981 in response to a demand from reader education librarians. [17]

Not only will it be necessary for the education of the librarian working in this area to be improved, but attention needs to be paid to improving the librarian's image. Could it be the 'image' which results in low attendances at 'library lectures' when courses in 'research methods' or 'communications' are well subscribed? Either the image is correct or librarians must educate their public about their profession. Many have suggested that it would be easier to change the name than reconstruct an image (the term librarian is often regarded to be an anachronism, a word with many negative connotations).

Surely, though, in this respect the key resource is the librarian and much depends on his/her attitude and motivation. One of the things which has contributed to the unflattering image of librarians in users' minds is the use of discipline oriented terminology or jargon of which librarians are so fond. This only perpetuates the mystique of the profession and erects a barrier between librarian and user.

Evans notes that regular personal contact with users is necessary in the provision of an effective information service. [18] This also applies to user education contacts. The librarian must be approachable and ways and means of achieving this are discussed by Ellison and Molenda. [19] This requires motivation on the part of the librarian and also a willingness to go beyond the four walls of the library building. It would appear that most impact has

been made in establishing user education courses where the librarians are active members of the institution or community which they serve.

Approachability is important if the aim of user education is to stimulate the student to take responsibility for his or her own learning. He/she must be seen as an individual. [20]

The consequences of this view are summarised by Millis [21] who believes that libraries should be staffed by professionals who are alert to the needs and problems of people, not just to the demands of accurate information retrieval. She poses three questions. Is it not possible to relate a library to the student so personally that he is able to sense a continuum for himself and his growth? Can we not increase his sensitivity to the lateral development of ideas by exposing him to all kinds of resources, ridding him gradually of his dependence on and regurgitation of constricted, vertical legalistic thinking? Can we not be enthusiastic enough to awaken in him an eagerness for intellectual freedom and independence? For joy in learning? She concludes that an orientation which involves students in a total library experience on a one-to-one basis, rather than in an assembly line of isolated exposures, would be the most helpful approach.

7. Cooperation with Academic Faculty

Academics need to be convinced of the role of user education in their students' courses. Certainly librarians need to become more public relations conscious and learn to be better, or more skilled communicators if real cooperation is to be achieved. This closer cooperation is seen by many to be the key to solving the problem of students lacking motivation and of providing greater relevance to the courses, instruction being valueless if there is no need for it. This motivation is above all else dependent on the academic teacher's attitude to the library. Stevenson [22] found that many librarians felt the main limitation to be the attitude of academic staff and the teaching methods they adopt.

Although they agree in principle that students should learn to use the library and the literature of their subjects, they do not put much emphasis on this by making it necessary for students to use the library to succeed with their courses. Students naturally consider that their main aim is to pass their courses, and if they can do so without efficient literature searching techniques they feel that learning such techniques has a low priority. The solution seems to lie in closer cooperation between lecturers and librarians. They need to work together in the development of courses which require the inclusion of library resources in order to improve the quality of the education given to students. Such cooperation is called integration. But integration implies more than the insertion of traditional library and bibliography lectures into existing courses to make them respectable. It implies formulating overall aims for

courses in individual departments, incorporating library instruction objectives, and shared development of instructional methods between the library and the department to see that those objectives are attained.

8. Evaluation

Evaluation forms part of the overall planning of a reader education programme. It should be possible to measure the impact of instruction so as to present possible alternatives for better programmes. The effectiveness of user education is, however, not well documented. It is an area rich in speculation but uncommonly poor in demonstrable fact. [23] Every librarian has his/her ideas of what is good and bad, useful and not useful, but that is not the same as showing a programme to be effective or ineffective in a teaching situation.

Establishing aims and specific objectives is one of the basic components of any evaluation programme. Since these have rarely been stated it is hardly surprising that evaluation has not been undertaken. There is another reason. Many librarians have a misconception of the nature of evaluation, assuming it to always be a formal process involving pre- and post- tests and control groups. Evaluation can be defined as a systematic gathering together for analysis, information about what is taught and what is learned. Most data collection has been of a subjective nature, being in the main formal feedback from students, through the marking of practical work, and of observation of student use of the

library. A slightly more formal method is the use of questionnaires designed to elicit opinion. Very little objective work has been done and that which has, has largely been concerned with orientation.

An investigation into, and refinement of, evaluation procedures for tape/slide guides to library instruction has been undertaken at the University of Surrey. [24] Work at Southern Illinois University with freshmen found that groups oriented by machine only or by conventional lecture showed no significant different in their learning but groups given no instruction were decidedly worse performers in tests. [25] The effectiveness of six methods of instruction were compared by Kuo. [26] These methods were conventional lecture; audio instruction (tape lecture); tape/slide presentation; television; audiovisual instruction and control groups. The conclusions were that the use of visuals to complement oral instruction did not automatically improve achievement in the criterion test used; slide presentation of visual material was more effective than television presentation of the same material; self-paced audio-tutorial study followed by a question/answer session was the most effective way of increasing achievement.

Conclusions of this nature in a specific case must be regarded as tentative since much will rely on the quality of the presentation in the individual methods. This quality is a characteristic not of instructional material and method in general but of the specific institution where the programme was prepared and tested. It must also be

remembered that these individual methods are rarely used in isolation, as in this experiment, but in combination.

The same sort of reservation must be applied to the work of Kirk. [27] An instruction programme was presented by means of a lecture demonstration (lecture plus slides and handouts) or by guided exercise (a form of programmed instruction). Analysis of the test results did not provide cause for selecting the exercise method over the lecture, although the lecture group
was found to ask for more individual help than the exercise group.

The use of machines in instruction has resulted in several attempts to test their effectiveness as compared with other more traditional methods. Genung [28] poses the question: can machines teach the use of the library? Using videosonic machines to instruct students in the use of periodical indexes and the card catalogue, she was able to show, as a result of controlled study, that machine users were more efficient library users than those who did not use them. Axeen [29] however, was unable to detect any significant difference in the amount of knowledge gained by undergraduates using either computer-based instruction or the conventional lecture. In her investigation, students under both systems made significant gains in their knowledge of library use.

The above are but a few examples of evaluation studies. A literature review and bibliography on the evaluation of the use of educational technology in information handling has been prepared by Crossley and Clews [30] and a survey of evaluation methods employed for library lectures by Hernon. [31] Possible evaluation techniques for user education are discussed by Stevenson [32] and evaluation methods in general by Parlett.[33] The method of illuminative evaluation described by Parlett and Hamilton [34] is suggested by Stevenson to be a less formal approach which bears consideration in the sphere of user education. This is also the conclusion of Brewer and Hills. [35]

Evaluation must, though, be put in perspective. It is important if user education is to advance but it is not easy to achieve, it is time consuming, and, if done thoroughly, expensive. It may be possible to measure the immediate effect of a user education programme but at present measurement of long-range effects has not been attempted.

> 'What is not known at all and what has not been investigated is whether or not knowledge about libraries and skill in using them really makes any real difference to anybody - to anybody except librarians'. [36].

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CHAPTER IV

SUGGESTED BIBLIOGRAPHIC INSTRUCTION CURRICULUM

FOR AUSTRALIAN LIBRARIES

The following curriculum model is designed to be used as a guide. The importance of tailoring a reader education programme to suit each academic institution cannot be stressed enough. Programmes must meet the needs of their intended audiences, must reflect and reinforce the various curricula studied and be planned with a view to the financial, human and physical resources available to mount them. The curriculum model below is designed with the student teacher in mind, but the skills and concepts covered are integral to any bibliographic instruction programme. The model is designed with flexibility in mind: for trainee teachers, information sources pertinent to the students' needs would be incorporated, for example, the ERIC data base, Australian Education Index etc. plus coverage of sources relevant to their major teaching method(s). The model could, however, be used equally effectively for any other student group, providing the content or the information sources were tailored accordingly.

This curriculum model will deal only with the bibliographic instruction element of reader education as orientation programmes are by far the better established component of the two, and by their very nature (i.e. familiarising students with a particular library and its services), defy being designed in isolation from the library to which they pertain. Bibliographic instruction, on the other hand, relates to the nature of knowledge and ways of retrieving it : thus it applies to universal theories and to processes which are relatively standardised in libraries.

The curriculum model which will be explained combines both a process and a behavioural objectives/mastery-learning approach. Both are considered necessary for a bibliographic instruction programme. The essence of the behavioural objectives model was captured by Tyler.

> 'The most useful form for stating objectives is to express them in terms which identify both the kind of behaviour to be developed in the student, and the content or area of life in which this behaviour is to operate.'[1]

Stenhouse [2] uses the word objective to signify an aim specified in terms of student behaviour. Behavioural objectives or intended learning outcomes usually refer to something that the student is to do or say under specified conditions according to certain (minimum) standards (of performance). Sometimes a time limit is added as well.

Stenhouse continues,

> 'A more radical, systematic attempt to follow through the implications of the objectives model for curricular and instructional problems is associated with the concept of 'mastery learning',.... The basic premise of mastery learning is that students' aptitudes are predictive of the rate at which they can learn rather than of their possible level of achievement.... Application is claimed to be most effective where students need either minimal prior learning or previous learning which most learners already possess, where the subject to be learned is sequential and where subjects are closed and emphasise convergent rather than divergent thinking'.[3]

Stenhouse goes on to point out the shortcomings of the objectives approach.

> 'The objectives model of curriculum development is an ambitious and comprehensive theory in the sense that it provides a means of organising and relating a large range of variables, problems and activities. Such ambitious attempts at theoretical synthesis are necessary and important for the advancement of understanding.... Now it is

> one of the problems of theorising that our minds are beguiled by systematic tidiness and by comprehensive breadth. In curriculum studies.... the reverse is likely to be the case'.[4]

Stenhouse's critique of the objectives model is based on W. James Popham's paper 'Probing the Validity of Arguments against Behavioural Goals' which he gave in 1968 at an annual symposium of the American Educational Research Association in Chicago, 7-10 February.

Some of the major criticisms of the model levelled by Stenhouse and which have relevance for the design of a bibliographic instruction curriculum are:

1. Trivial learning behaviours are the easiest to operationalise, hence the really important outcomes of education will be under emphasised.

2. Prespecification of explicit goals prevents the teacher from taking advantage of instructional opportunities which occur unexpectedly.

3. Measurability implies behaviour which can be measured mechanistically and objectively.

4. The idea that teachers always specify goals in terms of measurable learner behaviours is unrealistic.

5. In evaluating the worth of instructional schemes it is often the unanticipated results which are really important, but prespecified goals may make the evaluation inattentive of the unforeseen.

6. Knowledge is primarily concerned with synthesis. The analytic approach implied in the objectives model readily trivialises it. [5]

Stenhouse concludes that skills are probably susceptible to treatment through the objectives model which encounters its greatest problems in areas of knowledge.[6] The process model, on the other hand, is more appropriate in the areas of the curriculum which centre on knowledge and understanding. The key procedures, concepts and criteria in any subject, i.e. cause, form, experiment and tragedy, focus on speculation, NOT on mastery. They are also important as they invite understanding at a variety of levels.

For this reason I have chosen to advocate a combination objectives/process curriculum model for bibliographic instruction. The process part of the model emphasises the need for students to understand certain basic principles and concepts and to be able to apply and build on these, whereas the objectives area is necessary where students are to acquire specific skills. The use of behavioural objectives also makes evaluation of skills acquisition a reasonably straightforward process. The description of the bibliographic instruction curriculum model will focus on five major elements :

1. goals/objectives/outcomes;
2. content and associated learning outcomes;
3. methodology;
4. evaluation of the curriculum;
5. suggestions for administration of the programme.

Although discussed separately, these elements are, in fact, interdependent as suggested by Eraut.[7] His model distinguishes between aims or goals both explicit and implicit and the curriculum strategy. It defines the curriculum strategy as the framework of curriculum decisions within which teaching is planned and learning takes place, and it divides these decisions into four interdependent categories - subject matter; objectives and outcomes; assessment; and teaching, learning and communication. The diagram clearly illustrates that the interrelationship between the categories is so strong that a decision in any one category narrows the range of possible compatible decisions in the other three.

1. Goals/Objectives/Outcomes

The clear definition of changes desired as a result of a given educational process is a statement of goals and objectives. This facilitates the choice of course content, and of methods for presenting this material. At the same time it provides a focal point for evaluation, which is concerned, in part, with relating changes in a student's behaviour to the purposes of an educational programme. The terms 'goals' and 'objectives' are often used interchangeably but in this instance, 'goal' is used to denote a long-range or overall aim and 'objective' to describe a short-term, more specific aim.

Goals and objectives can be divided into three main groups - cognitive, affective and psychomotor. In bibliographic instruction the objectives are to be found mainly in the cognitive and affective domains. Cognitive goals and objectives are concerned with understanding. Goals and objectives in this domain can be arranged according to degree of complexity - from simple to complex and from concrete to abstract. Whether or not a sequence such as this will be adopted is decided by each course designer and/or instructor. Affective goals and objectives are concerned with feelings/emotions, for example, the pleasure derived from actually being able to retrieve required information from a vast collection of resources.

There is usually a close inter-relationship between cognitive and affective objectives. The publicly stated goals and objectives for a given course of instruction tend to describe cognitive elements. There are, however, in many cases, affective components implicit in these statements. Most teachers hope their students will develop a continuing positive interest in the material being taught, but this aim is often unspecified.

Thus in bibliographic instruction in the cognitive domain, the student should know how to use specific library tools such as abstracts and indexes when asked to do so. In the affective domain the student will make use of these resources when appropriate in connection with his/her information needs and enjoy the independence this knowledge brings.

As mentioned earlier, before any statement of goals and objectives is made, the needs of the user must be known, not perceived. The goals of the programme, when stated, should tie in with those of the library and the institution; the objectives should relate to the objectives of the individual department's courses, ideally they should be an integral part of those objectives. A statement of goals and objectives is a statement of possible and desirable changes resulting from an educational programme. Those changes must be agreed by all participants. Unfortunately, as stated earlier, goals and objectives are not frequently stated by librarians for user education programmes.

Given the fact that goals and objectives of the bibliographic instruction unit should be integrated in, or reflect, the student's course of study, the most commonly stated goal is usually concerned with helping students to acquire autonomy in a search for information. This may be reasonable, but there is little doubt that the flood of information, which is in fact accelerating, is completely unmanageable by any person. For most students, and for that matter, most teachers, the enormous bank of information is relatively unknown and most are unaware of the magnitude of the universal data base. Libraries and librarians are also finding it difficult to cope; all the skills possessed by reference librarians may be inadequate to manage the growing amount of information, even with the aid of automated storage and retrieval systems. How much, then, can we expect of tertiary students in their attempt to survive in this deluge? We need to be realistic in what we can expect to achieve. Autonomy in the search for information may be a good goal, but it is unlikely that many users will ever become completely autonomous in running the maze. Resourcefulness may be a better goal. This refers to the knowledge and ability to use alternative support systems. Above all, however, users need the skills of analysis, synthesis and evaluation so that they can make effective use of the information obtained. Analysis, as it is used here, refers to the identification of the essential features or constituent elements of any given entry or situation and their relationships. Evaluation involves measurement and judgement in regard to criteria developed, and synthesis involves combining separate constituent elements into a unified whole,

creating new knowledge through categorisation and deduction.[8]

Apart from an overall goal of resourcefulness, objectives might include:

- creating an interest in the library and appreciating it as a laboratory for explanation and research; (combination of cognitive and affective objectives here)

- introducing or furthering the skills of analysis, evaluation and synthesis as defined above; and

- helping students acquire correct study techniques, such as skills in using media and reference aids.

2. Content and associated learning outcomes

Though the content of library instruction varies from curriculum to curriculum and from institution to institution according to available resources, there are certain basic components which remain consistent. These can be divided into two main areas of learning, that of concepts and that of skills. As previously noted, the process curriculum model has been adopted for the former, the objectives model for the latter. The following concepts and skills have been suggested on the basis of my observations of reader education programmes, teaching experience in and study of the area over a lond period.

2.1 Concept content and associated learning outcomes

2.1.1 .Knowledge of Information Sources

As previously mentioned, sources would need to relate to the student-teacher's needs. Appendix I gives some suggested examples.

Desirable learnings for students:

- Acquaintance with the many and varied sources of information.
- Understanding of the skills involved in locating and gathering information.
- Knowledge of the resources held and services offered by the library.

2.1.2 .Acquisition of information and knowledge through the skillful use of information media.

Desirable learnings for students:

- An understanding and appreciation of media as sources of information, as the record of man's cultural heritage and creative ideas and thoughts.
- Appreciation of literary, aesthetic and human values in media.
- Acquaintance with media that provide for the enrichment and integration of the curriculum.

2.1.3 .Locating learning materials in the library.

Desirable learnings for students:

- Understanding of the opportunities for acquiring and utilising knowledge through skillful use of library media and personnel.
- Knowledge of the various library resources and their location and use.
- Acquaintance with, and facility in using the library's classification system in order to locate media in the library.

2.1.4 .Using current materials.

Desirable learnings for students:

- Understanding the value of current, ephemeral materials as information sources.
- Acquaintance with, and facility in, reading and using periodicals as sources of information.
- Facility in using television and film documentaries as information sources.

2.1.5 .Using reference tools to locate information

Desirable learnings for students.

- Knowledge of the existence of reference tools that supply concise information about things, places, people, events and progress, which have some relevance to the student's area of study.

2.1.6 .Locating and gathering information about people

Desirable learnings for students:

- Acquaintance with the many sources of information about people, and facility in choosing the source appropriate to the purpose of the reader and investigator.
- Knowledge of general biographical dictionaries and encyclopaedias and facility in their use.
- Knowledge about, and facility in the use of, special biographical encyclopaedias, dictionaries and directories.

2.1.7 .Locating information about words, phrases, quotations, literary terms and references

Desirable learnings for students:

- Facility in the use of dictionaries to obtain information about words.
- Ability to use word sources and supplementary English language sources in gaining facility in writing and speaking.
- Knowledge of and skill in locating literacy items and references.
- Ability to locate brief information about foreign words, phrases, items and allusions.

2.1.8 .Gathering and selecting information from many sources

Desirable learnings for students:

Ability to

- determine what information is needed and the appropriate and pertinent sources for locating it;
- obtain clear and vivid perceptions and to learn from direct experience;
- listen and thereby learn;
- interview and use people as authoritative resources for gathering information;
- locate printed, audio-visual and symbolic materials in libraries, museums, galleries and institutions;
- read with understanding and to select appropriate and pertinent materials;
- record the sources of information in approved bibliographic form.

2.1.9 .Organising information and knowledge

Desirable learnings for students:

Ability to

- select information pertinent to a topic or a problem;
- organise information in outline or precis form;
- take notes, record sources and to organise information gained from observing and listening, from manipulating objects and examining symbolic materials.

2.1.10. Analysing, interpreting and evaluating information

Desirable learnings for students:

Ability to

- analyse and interpret information, i.e., to read with comprehension;
- evaluate the authority of the information sources;
- differentiate between fact and opinion;
- recognise and evaluate propoganda.

2.1.11. Using information in reaching generalisations and conclusions and sharing information

Desirable learnings for students:

Ability to

- summarise information, and reach conclusions and generalisations;
- understand how information is used in solving problems and in decision making and in thinking deductively as well as procedurally;
- share information, report fact and participate in discussion;
- differentiate between memorising facts and using the method of inquiry and investigation;
- understand the processes through which a person sharpens, clarifies or changes beliefs and values as new knowledge/evidence is discovered.

2.2 Skills content

Regardless of the amount of emphasis given to skill development in primary and secondary education, tertiary reader-education librarians cannot assume that students need no further guidance. A test may be given to determine which skills students need; once determined, instruction could continue with emphasis on the following skills. Indeed, in some areas, the mastery learning approach may be adopted.

2.2.1 .Locational skills

These include:

- identification of the letters of the English alphabet. (This skills component is a prime candidate for mastery learning as the subject matter is sequential and closed, and convergent rather than divergent thinking is required.) One would expect tertiary students to have mastered this skill but there are exceptions.
- Using library tools, e.g., the catalogue, to locate information.
- Locating ephemeral material through indexes.
- Gaining facility in the use of a number of special reference tools in different disciplines, but particularly those of relevance to the student's area of study, e.g. The World of Learning.
- Acquiring facility in the use of periodical indexes and abstracting services pertinent to the student's selected disciplines, both general, such as Readers' Guide to Periodical Literature, and

subject specific, such as Chemical Abstracts, Index Medicus, or Australian Education Index, as sources for locating current information.

- Gaining acquaintance with all parts of the book : title page, preface, introduction, table of contents, lists of maps and illustrations, notes, appendix, bibliography, glossary and index.
- Learning about the arrangement and special features of dictionaries, encyclopaedias, annuals, almanacs, yearbooks, atlases and maps, government publications, as appropriate to the subject being studied, e.g. the reports of the Australian Schools Commission, The Encyclopedia of Education.
- Using special indexes of poetry, plays, costumes, essays, songs, and biography to find material in collections.
- Acquiring ease in the use of handbooks, manuals, directories and yearbooks for locating a variety of types of information.
- Acquiring essential skill in observing, listening, and viewing in order to obtain relevant information.

2.2.2 .Selection and Organisational Skills

These include:

- Identifying the purposes for acquiring the information.
- Skimming to ascertain if the selection contains information pertinent to the problem.
- Choosing a number of important topics under which the information may be grouped.
- Selecting and classifying less important facts under the main topic.
- Examining large or major topics to determine the most systematic arrangement as they relate to the problem.
- Selecting all the facts that bear on the problem.
- Jotting down sources of information and looking up unfamiliar words.

2.2.3 .Interpretative Skills

A number of immediate skills are basic to the interpretation of what is read:

- Understanding what the author means.
- Relating and evaluating pertinent ideas.
- Evaluating the reliability of sources and recognising and analysing propoganda.
- Distinguishing between fact and opinion and recognising and tracing pertinent relationships and time and place sequences.
- Willingness to evaluate one's own attitude on the subject being examined.

2.2.4 .Generalising and Conversion Skills

There are numerous questions that lecturers and reader education librarians may use to give direction to reaching conclusions and generalisations and to evaluating decisions. Examples of these questions might be:

- What are the possible conclusions and generalisations which can be drawn from an analysis of the information?
- Have you taken into account your own biases and prejudices which might have influenced the reaching of these conclusions?
- Have you gone beyond your own information in reaching conclusions?
- What do your conclusions indicate? Have they changed or clarified any of your previously held opinions or judgements?
- Can you use this information in making judgements and reaching decisions in other areas or with other problems?
- May further information make necessary a possible reconsideration of conclusions? [9].

3. Methodology

The bibliographic instruction curriculum should treat concepts, skills, tools and terms in a continuum - simple to complex. Such a continuum provides three levels of emphasis:

(1) introducing the specific concept, skill, tool or term through planned experiences;
(2) developing the skill and the use of tool or term within a context of functional utility and need;
(3) reteaching, maintaining and extending the concept, skill or use of the tool as part of the ongoing instructional programme.

Specific methodological objectives for such a programme may be as follows:

- The concept/skill should be taught functionally, in the context of an area of study, rather than as a separate exercise.
- The learner must understand the meaning and purpose of the concept/skill, and have the motivation for developing it.
- The learner should be carefully supervised in his/her first attempts to apply a skill, so that correct procedures are established from the outset.
- The learner should be provided with repeated opportunities to practice a skill, with immediate evaluation so that s/he knows where s/he has succeeded or failed in his/her performance.

- Provision should be made for individual help through diagnostic measures and follow-up exercises, since not all members of any group learn at exactly the same rate or retain equal amounts of what they have learned.
- Instruction should be presented at increasing levels of difficulty, the resulting growth in knowledge should be cumulative, with each level of instruction building on and reinforcing what has been taught previously.
- Students should be helped, at each stage, to generalise skills they have learned; in this way, maximum transfer of learning can be achieved.
- The programme of instruction should be sufficiently flexible to allow concepts/skills to be taught as they are needed by the learner.

Having compiled the framework of basic concepts and skills to be introduced or reinforced (see previous section) the instructor could then compile a companion checklist of information retrieval tools to be introduced or reinforced for particular disciplines and student groups (see Appendix I), as well as an accompanying checklist of relevant basic terminology or jargon. The next step is to plan for the systematic integration within the students' course of study for the introduction, the reinforcement and the practice of each of the basic skills, tools, concepts and terms. Timing is, of course, vital here and ideally should be planned with the academics. Finally, the instructor needs to select appropriate teaching strategies for the content. Strategies chosen will depend to a large extent on each institution's resources (e.,g. does your institution

have 'wet' carrels for individual audio-visual presentations or enough public access terminals for computer-assisted instruction?) Also, the preferences and needs of the students and each instructor's preferred methods need to be taken into consideration. For example, many tertiary Reader Education library staff find the use of 'Pathfinders' very successful. These are prepared for various areas of the curriculum currently being studied and are appropriate either for broad subjects like history or for specialised areas such as the sociology of groups. The pathfinder provides a printed map or step by step guide for the student to the resources of the subject held in the library. (See Appendix II) Its sequence is usually from general to specific so that the student can halt at that point in the chain which meets his/her required level of information specificity. Although students work alone following prescribed steps, assistance is always available from the reference librarians.

4. Evaluation of the Curriculum

Feedback on the success or otherwise of the programme should be sought from all who were involved, i.e., the lecturers, the reader education librarians and the students. The type of evaluation to be applied could be diagnostic, formal or informal, self or cooperative evaluation, longitudinal evaluation or achieved by use of control groups or a 'before and after' assessment. These modes of evaluation could be used alone or in combination, preferably the latter. Whatever method employed, however, the results should be used as:

(i) an aid in decision-making or

(ii) as a problem-solving strategy. Evaluation should also be an on-going process.

One must bear in mind that the combination model adopted will require adoption of different evaluative techniques in the objectives or skills area as opposed to the process or knowledge/understanding area. As Stenhouse points out the greatest problem inherent in the process model of curriculum design lies in the assessment of student work.

> 'The worthwhile activity in which teacher and students are engaged has standards and criteria immanent in it and the task of appraisal is that of improving students' capacity to work to such criteria by critical reaction to work done. In this sense assessment is about the teaching of self assessment.'[10]

He goes on to point out that the process model is essentially a critical model, not a marking model. As this model pursues understanding rather than grades, and since grades are attainable without understanding, this penalises the limited student in terms of opportunity even though it is educationally advantageous to him. The greatest weakness and/or strength of the model is that it rests upon the quality of the teacher.[11] Thus if reader education librarians are not committed to further developing their own skills and capacities as teachers, if they are not intent on pursuing understanding in their subject area, if they are disinterested in developing

and refining their criteria of judgement, then assessment and evaluation of the process elements in this curriculum will pose major difficulties.

Be that as it may, one can still determine the elements of the program to be evaluated. The focus of bibliographic instruction evaluation could be three-fold:

1. Resources - namely space, staff, money and materials.
2. Attitudes - satisfaction or dissatisfaction of students, lecturers, instructors; user awareness; user interests.
3. Needs of user - do the instruction programmes really meet student/lecturer needs?

Some of the purposes for which evaluation could be used are to:

- improve programmes so that they more closely meet user needs and interests;
- argue for additional resources;
- evaluate the effectiveness of any new elements or specific element of a programme in terms of the desired outcomes;
- encourage lecturers to participate and students to be involved in the development and updating of bibliographic instruction curricula;
- and to bring about organisational change. This change could be as simple as lecturers incorporating new approaches in their courses to accommodate the bibliographic instruction programme, or it could be much more permanent whereby bibliographic instruction was seen as an indispensible element of all tertiary education.

Reader education programmes could also be evaluated at various levels of sophistication - from determining the effectiveness of the programmes in terms of how well they satisfy user needs, through to ascertaining their cost-effectiveness or most difficult of all, their cost-benefit to the institution. In other words, can the expense of providing these programmes be justified by the benefits derived from them?

5. Suggestions for Administration of the Programmes

All the issues raised in Chapter 3 when discussing management of user instruction programmes are pertinent here. The practical problems of funding, timing, who should teach, what should be taught and how etc., all need to be faced, but to a large extent, decisions on these points need to be made within each individual institution. The important thing is that, wherever possible, the decisions be made jointly by the lecturers and the librarians involved. Also, wherever evaluation provides information for further decision-making or problem-solving, that it indeed be utilised as promptly as possible.

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CHAPTER V

BENEFITS OF BIBLIOGRAPHIC INSTRUCTION

In conclusion, the questions of 1) how the knowledge and skills gained from a bibliographic instruction curriculum might be used and 2) how the knowledge gained might benefit both the students and their teachers needs to be raised. Few would question that a tertiary education aims to produce independent minds. A necessary prerequisite for this is the ability to find and evaluate information. Too often this is an art that students are presumed to acquire by the mere fact of attending classes. This paper has argued that this is indeed far from the truth and has sought to give an overview of ways in which the library in a tertiary institution, in cooperation with the teaching staff, can ensure that information gathering techniques become an integral part of a student's education.

The inability to find and evaluate material stems partly from a failure to instruct students in the information retrieval techniques of their disciplines. Since the organisation, storage and dissemination of information is the special preserve of libraries, instruction in information searching is an obvious area for cooperation between teaching staff and librarians.

There is no intention whatsoever that librarians should pre-empt the academic staff's responsibility for the imparting of subject knowledge and the criteria for its evaluation. The purpose of bibliographic instruction is to give students an overview of how the literature of their subject is structured and to equip them with the basic skills for finding required information efficiently and confidently. Such training saves students' time and frustration and produces advantages for the academic staff, who have less need to provide props such as reading lists, and can ask for more adventurous work from their students.

> 'Dealing efficiently with information must now be recognised as one of the major problems in modern society ... a pupil must be able to identify his own information needs ... know the sources ... judge the value ... select the limited amount which will serve him best ... Pupils should be led in confidence in the use of bibliographic tools and in tapping sources of information in the community at large, and as the sources of information continue to change and multiply, the teacher must be prepared to learn alongside his pupil'.[1]

This sentiment has been echoed in every major education report since 1975 and yet, as seen from the overviews in the second chapter, very little whole-hearted commitment is given by either the administration or academic staff of tertiary institutions to achieving this goal of students dealing efficiently with information. Samuel Johnson stated the problem simply when he said that knowledge is of two kinds : we either know a subject ourselves or we know where we can find information on it. However, information alone is not enough to help students cope in today's world; they also need to be able to think!

Edward de Bono in his work Teaching Thinking (London : Pelican, 1978) states the case succinctly:

> 'Knowledge or information is the basic material handled by thinking. It is true that at one extreme thinking is impossible without some information on the subject. At the other extreme perfect information would make thinking unnecessay. In between those two extremes both thinking and information are required ... it is too often assumed that information is more important than thinking. Thinking is regarded only as a tool for assimilating information, classifying it and putting it into its proper place... Always to aim at getting information is admirable, but to await perfect information is impractical. In the ordinary world decisions and actions have to be taken, and since the information is usually imperfect it has to be supplemented by good thinking. ...It is best to remember that information is no substitute for thinking and that thinking is no substitute for information. There is a need for both'.[2]

Thus a bibliographic instruction programme which concentrates solely on information retrieval concepts and skills, without dealing with how to analyse, interpret, evaluate and apply the information retrieved, will be inadequate to help students in the rapidly changing environment they face. In order to achieve a balance between information and how to use it, a team effort between librarians and academics is needed. Given both elements, students will at least be well equipped to meet the demands placed upon them both in work and recreation, and hopefully be able to cope not just in the present but in the future as well. The overall goal of resourcefulness will have been achieved.

Student teachers perhaps have an even greater need to be equipped both to think effectively and to know how to find information, for it is they who will pass these skills on to our future generation. They will act as role models for our children, who will accept the fact that knowledge is constantly being modified and changed, and that what one knows to be true today may not be true in ten or fifteen years time.

As pointed out in the introduction, in order to cope effectively with the role change facing teachers they need to be flexible, to be able to find relevant information and to use resources efficiently, not only at a local level, but at national and international levels as well. Teachers and teacher-librarians can work fruitfully as teams in curriculum planning and development to achieve these goals. With the new emphasis on resource based learning students will be better prepared for the future.

> 'For as far as any outlook on the future of technology can reach - well into the next century - the ability to gather, record, organise, analyse and act upon information is going to be a dominant factor. What steam, steel and electricity was to the 19th century, information management and exploitation will be for the next half century if not longer. Not only is it the new raw material of technology, it will inevitably become an essential ingredient in the fabric of human society.'[3]

In conclusion, it can be said that the need for students at all levels to learn how to learn is essential if they are to cope effectively with the rapid expansion of knowledge and the accelerating pace of change. Well designed, effectively administered bibliographic instruction programmes can help. Their importance has, however, all too often been ignored. Many energetic and enthusiastic reader education librarians have eventually been worn down by the administrative difficulties of introducing and maintaining such programmes in a way which will have meaning to the student participants. Lack of recognition by faculty of the need for such programmes and lack of resources — staff, time and funding, seem to be the most common complaints.

I have argued that the need for our student teachers to be able to operate as independent learners is vital if they are to cope with the need to design their own curricula. I have also argued that it is perhaps more important for this student group than for any other to be given the advantage of bibliographic instruction, as it is they, and I repeat, who are to become extremely influential role models for future generations once they begin teaching. Children learn by example. If a teacher demonstrates the need to know how to find out - if he or she requires students to become independent researchers and thinkers - then these young people will have a head start.

Or as an old Chinese proverb says,

> 'Give a man a fish and you give him a meal;
> Teach him how to fish and he has food for life'.

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APPENDIX 1

SAMPLE CHECKLIST OF SELECTED INFORMATION RETRIEVAL SOURCES

FOR STUDENT TEACHERS

Title:	Australian Education Index Hawthorn Vic. A.C.E.R.
Type of Tool:	Periodical Index - selected subject.
Periodicity:	Periodical Index - selected subject.
Periodicity:	Issued quarterly with annual cumulations 1957-
Arrangement:	Subject and author index. Dictionary arrangement with all entries in one alphabetical run. Title entries are given for books and pamphlets but not for periodicals.
Scope:	The most important current awareness tool for those interested in Australian Education. Indexes books, pamphlets and periodical articles on education which have been published in Australia. Includes theses and dissertations and book reviews. It covers well over 1000 journals in all fields of education, including the official journals of the State Education Departments. Also, at the end of each annual cumulation there is a separate list of books and pamphlets published in the field that year.

See also Education Index for world wide coverage (but with a U.S. bias)

and British Education Index for British coverage.

Title: Australian Public Affairs Information Service (A.P.A.I.S.)

Type of Tool: Periodical Index - selected subject.

Periodicity: Issues monthly with annual cumulations 1945-

Arrangement: Alphabetically by subject.
Annual cumulation includes author index.

Scope: A.P.A.I.S. is a subject index to selected articles on Australian political, economic, social and cultural (broadly defined) affairs whether published in Australian periodicals or not. Indexes sections on Australia in books published overseas and indexes some government publications. It is, however, not primarily a periodical index. The National Library's photocopying and inter-library lending services give access to the materials indexed. Otherwise locations of indexed periodicals can be obtained from Serials in Australian Libraries : Social Sciences and Humanities. (S.A.L.S.S.A.H.)

Title: Australian Science Index
C.S.I.R.O.

Type of Tool: Periodical Index - selected subject.

Periodicity: Issued monthly. 1957-
Author and subject index cumulate annually but the entries do not.

Arrangement: Classified subject arrangement.

Each monthly issue is paged separately but the entries are numbered consecutively throughout the year and are divided into broad subject fields with separate author and subject indexes at the end of every issue. The December issue contains annual cumulations of both indexes; references are to each entry's running number.

Scope: It is the most comprehensive reference source to Australian scientific journals and bibliographically is considered to be superior to other Australian periodical indexes. It is, however, threatened with extinction as from January 1984 as CSIRO can no longer afford to produce it.

Title: Guidelines

Type of Tool: Periodical index - general

Periodicity: Issued Monthly. 1969-

Arrangement: Alphabetically by subject.
Uses specific subject headings.

Scope: Aims to provide Australian school and public libraries with a subject index to a range of Australian and overseas periodicals. Indexes approximately 100 titles, roughly half of which are Australian. Almost none of the Australian titles included are indexed elsewhere; the foreign titles however are (in Reader's Guide to Periodical Literature etc.). Indexes both periodicals and articles selectively (i.e. only those articles thought important by the editor are included).

Title: Humanities Index
Wilson Co.

Periodicity: Quarterly with annual cumulations. 1974-

Arrangement: Author and subject index.

Scope: Supersedes part of the Social Sciences and Humanities Index. Indexes 260 periodicals in the fields of archaeology and classical studies, area studies, folklore, history, language and literature, literary and political criticism, performing arts, philosophy, religion and theology, and related subjects.

A separate section of book reviews appears at the end of each issue with entry under author of each book reviewed.

Title: Pinpointer

Type of Tool: Periodical index - general

Periodicity: Issued monthly.

Arrangement: Alphabetically by subject.
Author index appears in the final issue each year.
Only 9 of the periodicals indexed overlap with Guidelines. Pinpointer uses less specific subject headings than Guidelines.

Scope: Indexes 32 popular periodicals almost all of which are Australian. Based on those periodicals which are in constant demand in the State Library of S.A. Comprehensive, not selective.
Pinpointer now also lists the bibliographies compiled by the Reference Services Branch of the State Library of S.A. These bibliographies are usually very good so this is a worthwhile addition.

There is also a version available on microfiche for 1981/82 which includes the actual article rather than just the reference to it.

Title: Readers' Guide to Periodical Literature
Wilson Co.

Type: Periodical Index

Periodicity: Issued semi-monthly (Sept-June) monthly (July-Aug)

Arrangement: Author and single entries are in a single alphabet. The subject headings, as in all the Wilson indexes, are consistent and easy to locate. Furthermore, numerous cross-references make information access rapid and straightforward.

Scope: Unusual, in that it is one of the few periodical indexes that attempts to cover the general field. Because of its wide scope, Readers' Guide along with its abridged version, the Abridged Readers' Guide, which is aimed at school and small public libraries, is one of the more popular indexes.

Some 156 magazines of general interest are indexed in the larger work, approximately 44 in the junior edition. It includes citations to book reviews, which are arranged alphabetically by author in a separate section of the index.

Title: Social Sciences and Humanities Index
(Formerly International Index) Wilson Co.

Type of Tool: Periodical Index - selected subject.

Periodicity: Issued quarterly with annual cumulations. 1965-

Arrangement: Author and subject index to the more scholarly journals in the humanities and social sciences.

Scope: Indexes over 200 American and English periodicals in the field.

Since 1974, this one volume has been split into two separate tools.

Title: Social Science Index
Wilson Co.

Periodicity: Quarterly with annual cumulations. 1974-

Arrangement: Author and subject index

Scope: Supersedes part of the Social Sciences and Humanities Index. Indexes 263 periodicals in the fields of anthropology, area studies, economics, environmental science, geography, law and criminology, medical sciences, political science, psychoglogy, public administration, sociology and related subjects.

A separate section of book reviews appears at the end of each issue.

The New Encyclopaedia Britannica 15th ed. Chicago: Encyclopaedia Britannica, 1974, 30 v.

It represents a radical departure from its predecessors in makeup and treatment. The content of the 30 volumes is presented in 3 parts:

1. Propaedia; Outline of Knowledge - Guide to Britannica - 1.v.
2. Micropaedia; Ready Reference and Index - 10 v.
3. Macropaedia; Knowledge in Depth - 19 v.

Reduced to its simplest terms, the changed structure of this new edition means that the long, monographic articles of the type which distinguished the 11th ed. have been brought together in the Macropaedia, while brief factual information best imparted through the more fragmented, direct-entry approach of the 14th ed. is presented in the Micropaedia. The conventional index is dispensed with, and the index function incorporated into the Micropaedia.

The 10 volume Micropaedia is both the index to the Macropaedia and an independent ready reference source offering some 102,214 articles ranging from a few lines up to 750 words in length. The 19 volume Macropaedia comprises 4,207 'in depth' articles, none of which is less than 1,000 words in length. These are signed articles by a world-wide selection of authorities, and include selective, briefly annotated bibliographies. Has helpful marginal headings.

Topics in the Micropaedia which are given fuller treatment under an identical heading in the Macropaedia are indicated by a volume and page reference immediately following the bold face entry; references to related articles in the Macropaedia are supplied at the end of many entries in the Micropaedia. Cross references are used freely throughout the 10 volume set.

Users should always begin with the Micropaedia entries: the facts and dates presented there may answer your need.

Most of the articles in this edition are newly written (those in the Macropaedia are usually by a scholar other than the contributor of the corresponding article in the 14th ed.); maps are scattered throughout the set rather than collected in an atlas section.

The Propaedia (a single volume, unnumbered in the set) is an outline of human knowledge. The publicity says its disciplinary overviews can be useful to the beginner in a given subject field and is a self-teaching aid.

It is divided into 10 sections:

1. Matter and energy
2. The Earth
3. Life on Earth
4. Human Life and Learning
5. Human Society
6. Art
7. Technology
8. Religion
9. History of Mankind
10. The Branches of Knowledge.

It contains references to the Macropaedia.
The total work is criticised for lack of detailed index.

New arrangement hard for some to accept. For some time to come, most libraries will want to keep the latest printing of the 14th ed. on the reference shelves. Updating will continue to be done through the yearbook, and a continuous revision policy.

The annual yearbooks serve as yearly surveys and as supplements to the Encyclopaedia Britannica. The date in the title is the date of publication; the record of events is for the previous year. Includes many signed survey articles as well as short articles under specific headings. Some biography is included. Contains an obituary section.

Reviews of the 15th ed. have been mixed and some have caused sections to be put forward for revision.

The Encyclopaedia Britannica, which has been seen by many as too scholarly for general use, is obviously trying to move into the teen-age and general market which is currently dominated by the World Book Encyclopedia. However, its organisation presents some difficulties for use, since despite the Micropaedia, it lacks an effective, exhaustive index to its contents.

Title: McGraw-Hill Encyclopedia of Science and Technology.

Periodicity: 3 editions 1960, 1966, 1971. Updated between editions by yearbooks.

Arrangements: Articles are arranged alphabetically and there are broad survey articles which by cross references lead on to others that are narrow in scope. Each article begins with a definition of the subject followed by enough background information so that the reader can go to a more detailed study.

Vol 15 includes an Analytical Index which contains each important term, concept and person mentioned throughout the 130,000 entries. Cross references used (See and See also) and a Topical index which groups article titles under nearly 100 general headings, e.g. under GEOPHYSICS there are approximately 80 articles listed.

Encyclopedia is well-illustrated with photographs, drawings, maps, graphs and diagrams. Bibliographies follow most of the longer articles which are signed with initials.

Scope: The best and most comprehensive source of information in the pure and applied sciences. It does exclude the behavioral sciences and medicine, treating only the pre-professional aspects of these. Articles are written at the level of the intelligent layman rather than for the specialist in the field. Highly authoritative.

SPECIAL SUBJECT

Encyclopaedia of the Social Sciences. New York : Macmillan, 1937. 15 vols.

International Encyclopaedia of the Social Sciences. New York : Macmillan, 1968. 17 vols.

Encyclopedia of World Art. New York : McGraw-Hill, 1959-68. 15 vols.

McGraw-Hill Dictionary of Art. New York: McGraw-Hill, 1969. 5 vols.

McCulloch, A. Encyclopaedia of Australian Art. London : Hutchinson, 1969.

Encyclopedia of Library and Information Science. New York : Dekker, 1968- (in progress).

McGraw-Hill Encyclopedia of Science and Technology. 3rd.ed. New York : McGraw-Hill, 1971. 15 vols.

Van Nostrand's Scientific Encyclopedia. 4th.ed. Princeton, New Jersey : Van Nostrand, 1968.

Grove, George. Grove's Dictionary of Music and Musicians. 5th ed. London : Macmillan 1954-61. 10 vols.

Encyclopedia of Philosophy. New York : Collier-Macmillan. 1967. 8 vols.

Encyclopedia of Education. New York. Macmillan-Free Press, 1971. 10 vols.

Hastings, James. Encyclopedia of Religion and Ethics. New York : Scribner, 1908-1927. 13 vols.

Menke, Frank G. Encyclopedia of Sports. 5th ed. New York : Barnes, 1969.

Pollard, Jack. Ampol's Australian Sporting Records. (approx, annual) 1st ed. Sydney : Jack Pollard, 1968.

Rules of the Game. Ringwood, Vic.: Penguin, 1974.

Encyclopedia of Sport Sciences and Medicine. New York : Macmillan, 1971. (Suitable for Physical Education Teachers.)

Title: World Almanac and Book of Facts

Type of Tool: Almanac-General

Periodicity: Annual 1968-

Arrangement: Consists of a large number of short articles, tables, charts, lists etc. arranged in a very broad subject order. Specific subject index located at front of the work.

Scope: The most comprehensive and most frequently used of the American almanacs of miscellaneous information. Contains statistics on social, industrial, political, financial, religious, educational and other subjects. U.S. Bias.

This is complemented by the British publication An Almanack London : Whitaker, 1869- or Whitaker's Almanack as it is generally known. This is similar to World Almanac... in scope and arrangement. It has a British bias but does have a section of approximately 3 pages covering each state of Australia under the headings - location, population, religions, physiography, government, education, finance etc.

Title: Europa Yearbook
London : Europa Publications.

Type of Tool: Yearbook - Government Politics etc.

Periodicity: Annual 1959-

Arrangement and Scope: 2 volume annual world overview and directory.

Vol I
- international organisations and brief summaries of them
- covers all European countries alphabetically by name.

Vol II
- other countries of the world
- each country is covered by an introductory essay followed by a brief survey giving statistics and summary information on the government, religion, media, finance, publishers, trade and industry, universities. Up-to-date information.

Europa is excellent for directory type information. Complemented by another Europa annual publication The Far East and Australasia 1970- . This covers south, east, and south-east Asia, Australia, New Zealand, and the Pacific Islands. Similar but more detailed information for each country than in Europa also lists newspapers and T.V. stations. Final section is a 'Who's Who' listing for the countries covered.

Title: Official yearbook of the commonwealth of Australia.
Australian Bureau of Census and Statistics. Canberra.

Type of Tool: Yearbook - Australian.

Periodicity: Annual 1941- (1908-1941 published irregularly)

Arrangement and Scope: Aims to provide a comprehensive and detailed statistical view of all aspects of the economy and social conditions of Australia plus information on Australia's history, geography, national defence etc.

The preface gives a brief history of the publication and lists chapters of special interest. It also mentions the index of special articles that have appeared in previous yearbooks. The importance of many of these articles, in addition to historical data, made past issues worth keeping.

Topics covered include a very brief history, the constitution, physical geography and climate, general government (including parliamentary government, the Sovereign, the Governor-General, governors, ministers and their port-folios, parliaments, elections etc.), defence, population, vital statistics, transport, welfare services, law, order, public safety incluyding copyright, education, cultural activities and research, manufacturing and rural industry, mineral industry and miscellaneous information including consumption of foodstuffs. Includes many tables which provide comparative figures for past periods.

Statistical summaries at the back.

APPENDIX 11

A-W LIBRARY PATHFINDER

MUSIC - SYMPHONY

Scope: The symphony is a sonata form for an orchestra; it developed from the 17th century Italian operatic overture. The classical symphony grew to maturity through the words of Haydn and Mozart, and it flourished as a form under Beethoven, Schubert and Brahms in the 19th century. The romantic symphony emphasised emotional appeal over classical form.

An introduction to this topic appears in:

Encyclopaedia Britannica under the entry 'Symphony'.

and

Scholes, Percy Alfred. The Oxford Companion to Music, 10th ed. rev. (1970) pp. 999-1002 under the entry 'Symphony'.

BOOKS dealing with the symphony are listed in the subject card catalogue. Look for the subjects:

'Symphony'	(highly relevant)
'Symphonies'	(also relevant)
'Musical Form'	(more general)

Frequently mentioned texts include:

Carse, Adam von Ahn
18th Century Symphonies; a Short History of the Symphony in the 18th Century with Special Reference to the Works in the Two Series : Early Classical Symphonies and 18th Century Overtures (1951)

Haggin, Bernard H.
A Book of the Symphony (1937)

Hill, Ralph, ed.
The Symphony (1951)

Ulrich, Homer
Symphonic Music: Its Evolution Since the Renaissance (1952)

Weingartner, Felix
The Symphony Since Beethoven (1904)

Other books including material on the symphony are shelved under call numbers:

AN ENCYCLOPEDIA and DICTIONARIES which contain information on the symphony are:

Apel, Willi, ed. Harvard Dictionary of Music, 2d. ed. rev. and enl. (1969) pp. 822-827.

Grove, George. Dictionary of Music and Musicians, 5th ed. (1955) v.8, pp.208-250.

Thompson, Oscar ed. The International Cyclopedia of Music and Musicians, 9th ed. (1964) pp.2159-2165.

BIBLIOGRAPHIES and MANUSCRIPT COLLECTIONS which contain material on the symphony include:

Darrell, Robert Donaldson, comp. Schirmer's Guide to Books on Music and Musicians (1951) p.306.

Hill, George R. A Preliminary Checklist of Research on the Classical Symphony and Concerto to the Time of Beethoven (Excluding Haydn and Mozart) (1970)

Hoffman-Erbrecht, Lothar. 'The Symphony', in Anthology of Music, A Collection of Complete Musical Examples Illustrating the History of Music, v.29 (1967)

Lang, Paul H., ed. Symphony, 1800-1900 (1969)

JOURNAL ARTICLES and other literature on the symphony are indexed primarily in the guides listed. The quoted subject headings are those in use since 1965 unless other dates are given.

Music index (Covers 225+ periodicals)
See:
'Symphony'

RILM Abstracts of Music Literature.
See:
'Symphony'

Other indexes, listed here, should be used for an exhaustive search. Only a limited return can be expected for the time spent. Directions are generally given in the from of each issue.

Dissertation Abstracts International
Section A. Humanities and Social Sciences

Readers' Guide to Periodical Literature.

JOURNALS that often contain articles relevant to the symphony are:

Musical Quarterly

Music and Letters

Music Library Association. Notes

STATE-OF-THE-ART REVIEWS and CONFERENCE PROCEEDINGS containing material on the symphony include:

Carse, Adam 'Early Classical Symphonies', Royal Music Association. Proceedings, v.62 (1935-1936) pp.39-55.

Cole, Malcolm S., 'Sonata-Rondo, the Formulation of a Theoretical Concept in the 18th and 19th Centuries', Musical Quarterly, v.55 (1969) pp.180-192.

Dickinson, A.E.F. 'The Founders of the Symphony', Monthly Musical Record, v.77 (1947) pp.227-232 and v.78 (1948) pp.4-10, 42-48, 92-97.

Hopkins, A., 'Talking About Symphonies : An Analytical Study of a Number of Well-Known Symphonies from Haydn to the Present Day', Musical Events, v.20 (August, 1965) pp.26-27.

This Pathfinder was compiled by Barbara Fiester, Rosary College Graduate School of Library Science, River Forest, Illinois, and edited by Ray Anne Kibbey, Assistant Reference Librarian, University of South Florida, Tampa, Florida. All orders should be addressed to the Addison-Wesley Publishing Company, Reading, Massachusetts 01867.

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